

REMARKS

Applicants hereby request further consideration of the application in view of the amendments above and the comments that follow.

Status of the Claims

Claims 1-7, 9-10, 19-23 and 25-34 stand rejected under Section 102(e) as being anticipated by U.S. Patent Publication No. 2004/0076301 to Algazi et al. (Algazi). Claims 8, 11-18, 24 and 35-36 stand rejected under Section 103(a) as being unpatentable over Algazi in view of U.S. Patent No. 4,638,410 to Barker (Barker).

The Rejections under Sections 102 and 103

Claim 11 recites, *inter alia*:

a headgear unit;
a pinna on an outer surface of the headgear unit;
a microphone positioned adjacent the pinna;

Claim 11 stands rejected under Section 103 over Algazi in view of Barker. Applicants respectfully submit that the rejection under Section 103 is improper and should be withdrawn.

As acknowledged by the Action on page 9, Algazi does not disclose a headgear unit including pinna positioned on an outer surface thereof. Barker merely discloses a recess **23** wherein a light switch is mounted to prevent the switch from being accidentally bumped by an obstruction underwater. Barker bears no relation to devices including microphones and, in particular, for generating directional sound environments. Thus, neither Algazi nor Barker in any way suggests a headgear unit including a pinna and a microphone positioned adjacent the pinna as claimed.

Nor is there any reason apparent why one of ordinary skill in the art in view of Algazi and Barker would have modified the device of Algazi to correspond to the device of Claim 11. The Action contends that one of ordinary skill in the art would have been motivated to mount the microphones of Algazi within recesses so as to prevent the microphones from protruding from the helmet in order to help protect the microphones from being damaged

during use. Applicants respectfully submit that the proposed motivation is not suggested by or apparent from the cited art. Although Barker is not explicit in this regard, it appears that the recess **23** is provided to prevent the switch **21** from being inadvertently turned on or off while nonetheless being of a type (a toggle switch) that can be manipulated by a user wearing neoprene gloves), not to protect the switch from damage. In any case, a switch and a microphone are not simply interchangeable in this context. Whereas a light switch can be housed in a recess without impairing or altering its function, placement of the microphones of Algazi in recesses in the diving helmet or other surfaces as described in Algazi may significantly and undesirably alter the sound reception of the microphones and the overall performance of the Algazi device. As such, the proposed modification to Algazi of installing the microphones in shielding recesses as shown in Barker would destroy, at least in part, the intended functionality of the Algazi device.

Accordingly, Claim 11 is allowable over the cited art for at least the foregoing reasons. Claims 12-18, 23, and 37-42 depend from Claim 11 and are therefore allowable as well for at least these reasons. At least certain of the dependent claims are further patentably distinguishable from the cited art.

New Claim 37 depends from Claim 11 and further recites that "the pinna approximates the shape of a human ear." A device as claimed having pinna approximating the shape of a human ear can provide particular advantage in generating a directional sound environment. The pinna and arrangement as claimed may provide three-dimensional orientation and naturalized hearing without requiring signal processing to modify a detected sound signal. Accordingly, in some cases the cost, weight and complexity attendant to signal processing may be avoided.

New Claim 40 depends from Claim 37 and further recites that the pinna approximates the shape of an ear of a specific individual intended to wear the headgear unit. A device as claimed may be beneficial because the headgear wearer's brain may be particularly adapted to the sound signal modifications provided by his or her own pinna. By emulating or replicating the wearer's own pinna, the sound signal modification provided by the device's pinna may be better matched to the wearer's brain and thereby more effective in providing a directional

sound environment for the wearer. The cited art do not teach or suggest provision of an individualized pinna as claimed.

Claims 38, 41 and 42 depend from Claims 37, 40 and 11, respectively, and further recite an earphone including an in-ear portion. The in-ear portion may be particularly beneficial by bypassing the headgear wearer's own pinna, thereby avoiding redundant modification of the sound signal by two pinna (*i.e.*, the first modification by the pinna of the headgear and the further modification of the modified sound signal by the wearer's own pinna). The cited art do not teach or suggest a device as claimed including pinna and an earphone including an in-ear portion.

New Claim 43 recites a method including, *inter alia*, providing a device as recited in Claim 11 as amended. Accordingly, Claim 43 is patentable over the cited art for at least the reasons discussed above with regard to Claim 11.

Claims 1-7, 9 and 44-51 depend from Claim 43 and are therefore allowable as well for at least these reasons. Claim 44 is further patentably distinguishable from the cited art for the reasons discussed above with regard to Claim 37. Claims 47 and 50 are further patentably distinguishable for at least the reasons discussed above with regard to Claim 40. Claims 45, 48 and 51 are further distinguishable from the cited art for the reasons discussed above with regard to Claims 38, 41 and 42.

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Application No.: 10/715,123
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CONCLUSION

Applicants respectfully submit that this application is now in condition for allowance, which action is requested. Should the Examiner have any matters outstanding of resolution, he is encouraged to telephone the undersigned at 919-854-1400 for expeditious handling.

Respectfully submitted,



David D. Beatty
Registration No. 38,071
Attorney for Applicants

USPTO Customer No. 20792
Myers Bigel Sibley & Sajovec, P.A.
Post Office Box 37428
Raleigh, North Carolina 27627
Telephone: (919) 854-1400
Facsimile: (919) 854-1401

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Katie Wu
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